LOD2014
Linked Open Data: where are we?
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Archivio Centrale dello Stato

SBN in Linked Open Data

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Istituto Centrale per il Catalogo Unico delle biblioteche italiane (ICCU)
The Central Institute for the Union Catalogue of Italian Libraries (ICCU)

- Is the national center which promotes and coordinates cataloguing and digitisation activities of the Italian libraries
- Is responsible for guiding, producing, adapting and disseminating the standards and rules for cataloguing and digitisation of the library heritage
- Is in charge to coordinate and to manage national systems and census: National Library Service (SBN), National Census of Italian XVI century editions (EDIT16), Census of Manuscripts of Italian Libraries (Manus), Internet Culturale, CulturalItalia...
- Is in charge to coordinate many European and international projects in the field of digital cultural content

http://www.iccu.
5,200 libraries linked to the SBN Union Catalogue through 85 nodes

- 12 M **resources** (modern, antique, music graphic, cartographic)
- 3.5 M **authors**
- 66 M **locations**

**Daily traffic**
- 200,000 daily requests from libraries to Index

- 66 M searches
The SBN National Coordination Committee requested ICCU to study and define a data model for publishing the OPAC SBN data in Linked Open Data

Activities:
- Analysis of a basic methodology for creating open linked data from the bibliographic data according to the international standards and cataloguing rules in SBN
- Drawing the logic scheme relating to bibliographic content, attribution of descriptive, semantic, management metadata
- Selection of a first set of bibliographic records and export them from OPAC SBN in UNIMARC format
- Development of namespaces to accommodate UNIMARC element sets and value vocabularies following the FRBR family of models

ICCU established a Working Group:
Margherita Aste, Francesco Gandolfi, Luca Martinelli, Patrizia Martini, Cristina Mataloni, Elisa Sciotti, Carla Scognamiglio (ICCU); Achille Felicetti (VAST LAB – PIN)
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Activities:

- Data conversion into RDF (Resource Description Framework) encoding syntactic basis of the Semantic Web and linked data
- Creation of a triple store and an interface that allows libraries to derive triples that constitute entities of their interest (work, expression, etc.), converted to standard formats, and afterwards usable within their catalogue
- Creation of links to data sets of international open linked data projects: VIAF, Europeana, Linked Heritage, DBPedia, etc.
- Publication of data in RDF/XML with different modes: with appropriate access URI and URL, through interfaces, SRU, OAI SPARQL Endpoint
- Definition of EP-SPARQL search function for published datasets consultation
- Validation, ensuring the respect of the formats required by the semantic web, and multiple tests on the data set functionality in a manner consistent with the principles and purposes of the semantic web
First activity results

A datamodel for the conversion in RDF

- Selection and export of 2,000 records from OPAC SBN in UNIMARC format relating to documents of Modern and Antique materials.
- Analisys of UNIMARC fields for defining the entities to convert and create an element for every allowed combination of tag, indicators, and subfield.
- Mapping UNIMARC/FRBRoo with reference to conceptual model CIDOC /CRM

“Object-oriented definition and mapping to FRBR ER” (ver. 0.9 draft)
Next steps

• Conversion of SBN records in FRBRoo/RDF format and implementation of a semantic triple store in order to integrate them with other datasets.
FRBR/CIDOC CRM

FRBR/CIDOC CRM Harmonisation brings together representatives from both library and museum communities with the common goals of:

• Expressing the IFLA FRBR model with the concepts, tools, mechanisms, and notation conventions provided by the CIDOC CRM

• Aligning the two object-oriented models with the aim to contribute to the solution of the problem of semantic interoperability between the documentation structures used for library and museum information

• FRBRoo an extension of the CIDOC CRM
UNIMARC Mapping Example

001 IT\ICCU\TO0\1802857
005 20110418121539.2
010 $a88-389-2536-4
010 $a978-88-389-2536-8
020 $aIT$b2011-882
100 $a20110304d2011 || ||0itac50 ba
101 $aita
102 $aIT
200 1 $aRacconti per una sera a teatro$fLuigi Pirandello$ga cura di Guido Davico Bonino
210 $aPalermo$cSellerio$d2011
215 $a410 p.$d17 cm
410 0$1001IT\ICCU\CFI\0000165$12001 $a<<La >>memoria$v844
676 $a853.914$cNARRATIVA ITALIANA, 1945-1999$v21
700 1$aPirandello$b, Luigi$f <1867-1936>$3IT\ICCU\CFIV\000270$4070
702 1$aDavico Bonino$b, Guido$3IT\ICCU\CFIV\003294
790 1$aBirandillu$b, Luwgi$3IT\ICCU\IEIV\076082$zPirandello, Luigi <1867-1936>
790 1$aPirantelo$b, Louitzi$3IT\ICCU\PUVV\323459$zPirandello, Luigi <1867-1936>
790 1$aPirandello$b, Luitzi$3IT\ICCU\PUVV\323462$zPirandello, Luigi <1867-1936>
801 3$aIT$bICCU$c20130610

[...]

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UNIMARC to FRBRoo Mapping Example
Element sets & value vocabularies

FRBR/FRAD/FRSAD family
http://iflastandards.info/ns/fr/
ISBD
http://iflastandards.info/ns/isbd/
RDA
http://rdvocab.info/
Nuovo Soggettario (BNCF)
http://Thes.bncf.firenze.sbn.it/
Dewey Decimal Classification
http://dewey.info/

CIDOC-CRM
http://cidoc-crm.org
Linked Open Vocabularies
http://lov.okfn.org/dataset/lov/
Open Metadata Registry
http://metadataregistry.org/
The ISBD Vocabularies

This page provides quick links for the Registered ISBD Element Sets and Value Vocabularies. Each set of elements or vocabulary concepts has a link to the general description as well as a link to a list of elements or concepts.

ISBD Element Sets

| ISBD elements | Element list (190) | RDF/XML | rss2 | rss1 | atom | Published |

ISBD Vocabularies

| ISBD Content Form | Concept list (1) | RDF/XML | rss2 | rss1 | atom | Published |
| ISBD Content Qualification of Dimensionality | Concept list (2) | RCF/XML | rss2 | rss1 | atom | Published |
| ISBD Content Qualification of Motion | Concept list (2) | RCF/XML | rss2 | rss1 | atom | Published |
| ISBD Content Qualification of Sensory Specification | Concept list (5) | RCF/XML | rss2 | rss1 | atom | Published |
| ISBD Content Qualification of Type | Concept list (3) | RCF/XML | rss2 | rss1 | atom | Published |
| ISBD Media Type | Concept list (10) | RCF/XML | rss2 | rss1 | atom | Published |
LOD and Bibliographic control

• Analysis and translation of RDA (Resource Description and Access)
  – National Committee and National working group for translation of RDA have been established

• Participation in EURIG Initiative (European RDA Interest Group)

• Participation in IFLA working groups and Committees
Thank you!

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